



MAP Spring 1999

Released Items & Rubrics
Elementary
Science

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SESSION I

CONSTRUCTED RESPONSE

1. A student is holding a red marble in one hand and an ice cube in the other. Both the marble and the ice cube weigh the same.

Tell one other way that the ice cube and marble are the same.

Tell two ways the ice cube is different from the marble.

1.

2.

Describe a physical change that will happen to the ice cube but not to the marble.

What will cause the ice cube to change?

2. Why does the sun seem to rise every morning and set every evening?

SESSION II

HEART SMART

The school nurse came into Joey's class to teach the students about the heart. The nurse taught them how to find their heart rates. The heart rate is the number of times the heart beats every minute.

Now you will learn how to **find** your own heart rate. Listen carefully to your teacher's directions. When you have finished, write your own heart rate in these boxes.

____ beats per six seconds

____ beats per minute

Joey went to the school library and found a chart of animal heart rates. Study the chart. Answer the questions that follow.

ANIMAL	BEATS PER MINUTE
Mouse	980
Squirrel	250
Dog	100
Horse	40
Elephant	25

- I. Which animal on the chart has the fastest heart rate?
2. Which animal has the slowest heart rate?

3. Fill in the blanks to complete these sentences:

The smaller the animal, the _____ its heart rate.

The larger the animal, the _____ its heart rate.

4. Now look at your own heart rate. Write your name and heart rate in the chart on Page 3 in the empty row where you think they belong.

5. The blue whale is the largest animal on Earth. Write “blue whale” in the chart on Page 3 in the empty row where you think it belongs.

6. On the lines below, tell why you placed the blue whale where you did.

7. When we are sleeping, our hearts will beat more slowly. When we are active, excited, or scared, our hearts will beat faster. On the lines below, write about a time when your heart was beating very fast.

SCORING GUIDE

SESSION I:

1. **Four points—one** for each section

- A. hard/solid/made of matter/smooth
- B. temperature/shape/color/composition/size
- C. melting/it will melt
- D. heat/warmth of hand/anything that refers to warm temperature

2. **One point**

Earth turns around/rotates/spins/turns

SESSION II:

1. **One point**

Mouse has the fastest heart rate on the chart

2. **One point**

Elephant has the slowest heart rate on the chart

3. **Two points—one** for each sentence

The smaller the animal, the FASTER its heart rate.
The larger the animal, the SLOWER its heart rate.

4. **One point**

Student correctly places own name and heart rate in the chart. Most will fall between dog and horse, but placement must be consistent with student's heart rate.

5. **One point**

"Blue whale" is placed on the chart after the elephant

6. **One point**

The blue whale is bigger than the elephant, so the heart rate will be slower/ the blue whale is bigger than any of the animals in the chart

7. **One point**

Any reasonable response that shows excitement, fear, exercise, or other factors that would increase heart rate.